

# PATENT ABSTRACTS OF JAPAN

(11) Publication number : 08-336524

(43) Date of publication of application : 24.12.1996

(51) Int.CI.

A61B 6/03  
G06F 19/00  
G06T 1/00

(21) Application number : 07-171508

(71) Applicant : SHIMADZU CORP  
KATO HARUFUMI  
SAITO MAKOTO

(22) Date of filing : 13.06.1995

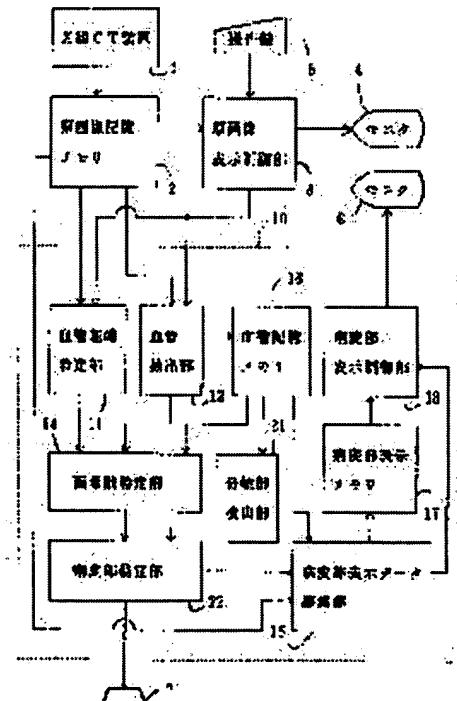
(72) Inventor : SATO YUKIO  
KATO HARUFUMI  
SAITO MAKOTO

## (54) X-RAY IMAGE PROCESSOR

### (57) Abstract:

**PURPOSE:** To facilitate the doctor's diagnosis by automatically specifying a lesion part from X-ray CT images.

**CONSTITUTION:** The image obtd. by an X-ray CT apparatus 1 is stored into an original image storage memory 2. A blood vessel extracting section 12 extracts the blood vessel from this image. A number-of-pixel specifying section 14 segments the blood vessel to microregions along the blood vessel and determines the number of pixels constituting the blood vessels in the respective microregions. A lesion part specifying section 15 specifies the lesion part by investigating the change in the number of pixels within the respective microregions with respect to the row of the respective microregions along the blood vessel. The normal blood vessel is finer from its base end toward its terminal and, therefore, the number of pixels in the respective microregions lining up in its direction changes gradually less but the tumor part made in the blood vessel bulges to a spherical shape and the change in the number of pixels from the normal blood vessel



toward the tumor part increases without gradually lessening. The lesion part is specified by noticing such change in the number of pixels. The specified lesion part is displayed on a monitor 6.

---

#### LEGAL STATUS

[Date of request for examination] 10.04.2001

[Date of sending the examiner's decision of rejection] 03.06.2003

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office